

What is claimed is:

1. A method for controlling paper pickup in an image forming system, the method comprising:

5 (a) setting a number of re-attempts of pickup of paper and a number of no-load operations of a transfer belt, respectively; and

(b) performing a paper pickup operation repeatedly in accordance with the number of re-attempts of pickup of paper and the number of no-load operations of the transfer belt when paper pickup is not successfully performed.

10 2. The method of claim 1, wherein the number of re-attempts of pickup of paper is set to an integer number, which is the same as or smaller than a value obtained by dividing a time period from a time when a printing operation starts to a time when a transfer roller contacts the transfer belt and a toner image of the  
15 transfer belt is transferred onto paper, by a time period from a time when a pickup unit is driven to a time when a front end of the paper is detected in the transfer roller.

20 3. The method of claim 1, wherein the number of no-load operations of the transfer belt is set to an integer number, which is the same as or smaller than a value obtained by dividing a time period from the time when the printing operation starts to a time when a color toner image is transferred to the transfer belt by a developing agent stored in a plurality of ink cartridges, by a time period in which one no-load operation of the transfer belt is performed.

25 4. The method of claim 1, wherein the step of performing a paper pickup operation further comprises:

(b1) performing a paper pickup operation repeatedly in accordance with the set number of re-attempts of pickup of paper when the paper is not detected by a paper feeding sensor within a predetermined amount of time from the time when the  
30 pickup unit is driven; and

(b2) performing a no-load operation of the transfer belt and performing a paper pickup operation repeatedly in accordance with the set number of no-load

operations of the transfer belt when paper pickup is not successfully performed within the number of re-attempts of pickup of paper.

5        5.     The method of claim 4, wherein the step of performing a paper pickup operation further further comprises (b3) determining that a paper jam occurs due to a pickup error when paper pickup is not successfully performed within the number of no-load operations of the transfer belt.

10       6.     A computer readable medium of instructions for controlling paper pickup in an image forming system comprising:

        a first set of instructions adapted to control the system to set a number of re-attempts of pickup of paper and a number of no-load operations of a transfer belt, respectively; and

15       a second set of instructions adapted to control the system to perform a paper pickup operation repeatedly in accordance with the number of re-attempts of pickup of paper and the number of no-load operations of the transfer belt when paper pickup is not successfully performed.

20       7.     The computer readable medium of instructions of claim 6, further comprising:

        a third set of instructions adapted to control the system to perform a paper pickup operation repeatedly in accordance with the set number of re-attempts of pickup of paper when the paper is not detected by a paper feeding sensor within a predetermined amount of time from the time when the pickup unit is driven; and

25       a fourth set of instructions adapted to control the system to perform a no-load operation of the transfer belt and perform a paper pickup operation repeatedly in accordance with the set number of no-load operations of the transfer belt when paper pickup is not successfully performed within the number of re-attempts of pickup of paper.

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        8.     An apparatus for controlling paper pickup in an image forming system, the apparatus comprising:

a pickup re-attempt condition setting unit, which sets a number of re-attempts of pickup of paper and a number of no-load operations of a transfer belt, respectively; and

5 a pickup controller, which controls a pickup unit to perform a paper pickup operation repeatedly in accordance with the set number of re-attempts of pickup of paper when the paper is not detected by a paper feeding sensor within a predetermined amount of time from the time when the pickup unit is driven, and controls the pickup unit to perform a no-load operation of the transfer belt and to perform a paper pickup operation repeatedly in accordance with the set number of  
10 no-load operations of the transfer belt when paper pickup is not successfully performed within the number of re-attempts of pickup of paper.

9. The apparatus of claim 8, wherein when paper pickup is not successfully performed with the number of no-load operations of the transfer belt,  
15 the pickup controller determines that a paper jam occurs due to a pickup error.

10. The apparatus of claim 8, wherein the number of re-attempts of pickup of paper is set to an integer number, which is the same as or smaller than a value obtained by dividing a time period from a time when a printing operation starts  
20 to a time when a transfer roller contacts the transfer belt and a toner image of the transfer belt is transferred onto paper, by a time period from a time when a pickup unit is driven to a time when a front end of the paper is detected in the transfer roller.

11. The apparatus of claim 8, wherein the number of no-load operations  
25 of the transfer belt is set to an integer number, which is the same as or smaller than a value obtained by dividing a time period from the time when the printing operation starts to a time when a color toner image is transferred to the transfer belt by a developing agent stored in a plurality of ink cartridges, by a time period in which one no-load operation of the transfer belt is performed.

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12. An image forming system comprising a controller, wherein the controller performs the following operations:

sets a number of re-attempts of pickup of paper and a number of no-load operations of a transfer belt, respectively;

5 controls a pickup unit to perform a paper pickup operation repeatedly in accordance with the set number of re-attempts of pickup of paper when the paper is not detected by a paper feeding sensor within a predetermined amount of time from the time when the pickup unit is driven;

controls the pickup unit to perform a no-load operation of the transfer belt and to perform a paper pickup operation repeatedly in accordance with the set number of no-load operations of the transfer belt when paper pickup is not successfully  
10 performed within the number of re-attempts of pickup of paper; and

determines that a paper jam occurs due to a pickup error when paper pickup is not successfully performed within the number of no-load operations of the transfer belt.